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May 24, 1995

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MAY 24 1995

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

Re: PR Docket No. 93-600 [REDACTED]

Dear Mr. Caton:

Enclosed for filing on behalf of CellNet Data Systems, Inc., are an original and eleven copies of an Opposition to Petitions for Reconsideration in the above-referenced docket.

Please date stamp and return the copy provided for that purpose.

If you have any questions, please do not hesitate to contact the undersigned.

Sincerely,

WILKINSON, BARKER, KNAUER & QUINN

Lawrence J. Movshin

By: Lawrence J. Movshin

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BEFORE THE
Federal Communications Commission
WASHINGTON, DC 20554

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MAY 24 1995

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

In the Matter of)

Amendment of Part 90 of the)
Commission's Rules to Adopt)
Regulations for Automatic)
Vehicle Monitoring Systems)

) PR Docket No. 93-61

To: The Commission

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OPPOSITION TO PETITIONS FOR RECONSIDERATION

CELLNET DATA SYSTEMS, INC.

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May 24, 1995

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- The emission mask limits imposed on LMS systems are necessary to allow band sharing. Relaxing these requirements would only increase the potential for interference to Part 15 devices.

- The presumption of non-interference must remain irrebuttable to prevent controversy and litigation over the source of and fault for interference problems.
- Expanding the current limitations on interconnection and permissible uses will result in intolerable interference to all users of the band. Messaging services are already available from other CMRS services and are not needed by LMS licensees.
- The vast majority of non-Multilateration system designs are based on low-power and highly directional applications. Thus, greater design flexibility is not necessary and changes to the technical restrictions on non-multilateration systems should not be permitted.
- The grandfathering provisions of the *Report and Order* should be employed to protect only existing licensees who have installed and operated systems in reliance on existing rules. The grandfathering provisions should not be expanded but must rather be clarified in order to prevent undue and uncontrolled expansion by LMS licensees speculating in spectrum.

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To: The Commission

OPPOSITION TO PETITIONS FOR RECONSIDERATION

CELLNET DATA SYSTEMS, INC. ("CELLNET"), by its attorneys and pursuant to Section 1.429 of the Commission's Rules, hereby submits its Opposition to various Petitions for Reconsideration filed in response to the Report and Order (FCC 95-41, released Feb. 6, 1995, Erratum, DA 95-265, released Feb. 17, 1995, Second Erratum, released Mar. 1, 1995) in the above-captioned proceeding. CELLNET has been an active participant in all phases of this proceeding, advocating a realistic approach to the cohabitation in the 902-928 MHz band of devices and systems operating under Part 15 with those licensed services that might be operating (or soon develop) under the regulatory regime for Location and Monitoring Services systems under Part 90.¹

¹ CELLNET has also filed a Petition for Reconsideration and Clarification (the "CELLNET Petition") in this proceeding, requesting various modifications and clarifications to the rules adopted in the Report and Order to better obtain the objectives announced therein.

INTRODUCTION

CELLNET generally supports the Petitions for Reconsideration filed by manufacturers and users of Part 15 devices and systems. Like CELLNET, those petitioners have urged review of those portions of the new rules that could lead to unintended expansion of the use of the 902-928 MHz band by LMS licensees in a fashion that would severely hinder the band's use under Part 15. However, CELLNET strongly opposes those in the LMS community² who have proposed changes in the rules that would lead to development of this spectrum in a fashion that will virtually suffocate out the existing and planned Part 15 uses.

As demonstrated below, these Petitions for Reconsideration suffer from a common flaw -- the LMS Petitioners fail or refuse to recognize that the 902-928 MHz band is shared, and that the Commission expressly recognizes the substantial public benefits from rules that encourage and accommodate all uses permitted under Parts 15, 90 and 97. Thus the LMS petitioners' suggestions to change the permitted technical characteristics, the permitted service

² Specifically, CELLNET opposes Pinpoint Communications, Inc. ("Pinpoint"), MobileVision, L.P. ("MobileVision"), Southwestern Bell Mobile Systems, Inc. ("SBMS"), Uniplex Corporation ("Uniplex"), Amtech Corporation ("Amtech"), and AirTouch Teletrac ("Teletrac") (the "LMS Petitioners").

offerings or uses, or even the grandfathering provisions, all of which would expand uses by LMS licensees to the virtual exclusion of all others, must be rejected.

The delicate balance created by the various compromises of interests in this proceeding, intended to allow for the development of *location and monitoring services without* impacting Part 15 uses must be maintained. That LMS licensees are not interested in developing true *location and monitoring services* because they are not able to use the spectrum for other, more lucrative services already available from a variety of other sources should not justify upsetting such a hard-fought compromise.

DISCUSSION

I. The Emission Mask Limits Imposed on LMS Systems Are Necessary to Allow Band Sharing, and Should Not Be Relaxed.

Several LMS Petitioners have requested reconsideration of the emission mask limitations contained in Section 90.209(m). Teletrac, allegedly speaking for LMS licensees, generally, argues that the adopted emission specifications are prohibitive and impractical. Teletrac proposes much less stringent out-of-band requirements and suggests that a 30W power threshold should differentiate somewhat more liberal requirements for emission masks for multilateral systems from those imposed on narrowband

systems.³ Hughes has argued that the emission mask adopted for LMS is more stringent than that applied to Part 90 land mobile systems.⁴ SBMS argues that the emission mask is a "technical impossibility".⁵

Such arguments ignore a fundamental premise of the *Report and Order* adopting these new rules: to promote more effective sharing in the 902-928 MHz band,⁶ higher power services must meet strict bandwidth and emission limits to avoid unnecessary and unacceptable interference to Part 15 devices also operating in the band. This is particularly true when such emissions are outside the authorized LMS sub-band. Ironically, these parties do not suggest that the proposals lack solid engineering bases, or that such spurious emission controls will not improve conditions for use of the band by other services.

CELLNET and other Part 15 manufacturers have already demonstrated the serious potential for interference

³ Teletrac Petition at 5-6.

⁴ Hughes Petition at 10. Teletrac, SBMS and Pinpoint also argue that the emission mask should be similar to the limits adopted for private operational fixed services under Section 94.71. Teletrac Petition at 7, SBMS Petition at 21, Pinpoint Petition at 18.

⁵ SBMS Petition at 21.

⁶ See *Report and Order* at ¶1.

to Part 15 devices that the new rules may create.⁷ This potential for interference will only be exacerbated if the emission mask requirements are relaxed. At most, the Commission should differentiate emission mask requirements among transmitters only if the LMS transmitter is operating at 1 W or below.

II. The Presumption of Non-Interference Must Remain Irrebuttable.

Perhaps no single decision was more important to the long-term survival of Part 15 devices in the 902-928 MHz band than the FCC's recognition of threshold, objective technical standards for determining whether a Part 15 device is creating objectionable interference to an LMS system. In an effort to allow for the expansion of licensed services in a frequency band in which a myriad of advanced technologies⁸ have taken root -- to the substantial benefit of the American public -- the Commission simply developed a realistic criteria for determining what constitutes "harmful interference" from such Part 15 products.⁸

⁷ CELLNET Petition at 4-6.

⁸ Pinpoint suggests that the Commission has overstepped its bounds and abused administrative procedure in adopting these criteria. Pinpoint Petition at 22-23. This is simply incorrect. CELLNET, among several parties commenting on the *Notice of Proposed Rulemaking*, noted that the proposal to expand AVM
(continued...)

Nevertheless, several LMS Petitioners request reconsideration of the decision to create an irrebuttable presumption of non-interference. They urge instead that the threshold criteria should be abandoned or that the presumption should be rebuttable.

Such a change would be disastrous for Part 15 systems, and even worse for those systems, like CELLNET's, that include a large number of sites for commercial installations. In the unlikely event that an LMS licensee suffered interference, its first effort would be to complain against the most visible target -- for example, a large utility with numbers of Part 15 wireless meters.⁹ The Commission would be regularly embroiled in controversy and litigation trying to determine the source of and fault for the problem.

⁸ (...continued)
provided an opportunity for the Commission to clarify and confirm the status of Part 15 devices to assure full and fair use of this 902-928 MHz band. That is all that the Commission has done here. Moreover, the Commission regularly defines what constitutes "interference" from Part 15 devices by establishing emission field strength limits at or below which the Commission expects that such devices will not cause interference. It has simply taken the next logical step, and put the onus on other users of the band when a set of technical characteristics are met.

⁹ This would be particularly ironic since most LMS Petitioners have already acknowledged that utility metering systems present extremely low probability of creating interference.

With the presumption of non-interference, Part 15 systems can be reasonably designed without the threat of constant hindrance by LMS licensees, and the number of instances in which the FCC must mediate will be drastically reduced. The *Report and Order* has been drafted to provide a set of clear and certain guidelines for use of the 902-928 MHz band and to remove the need for the Commission to deal with every instance of interference, no matter how small or how easy it may be for the LMS licensee to avoid. If the presumption established in the *Report and Order* is made rebuttable, the result will be a backsliding into the previous situation of uncertainty and conflict.¹⁰ These proposals for change must therefore be rejected.

¹⁰ The Commission still must address the specific procedures for testing that are conditions precedent to the operation of wideband forward links. See CELLNET Petition at 6-9. As CELLNET feared, there is some confusion as to whether the testing requirement applies to all LMS licensees desiring to employ wideband forward links. Indeed, Pinpoint carefully and craftily assumes that the testing requirement only applies to MTA licensees. Pinpoint Petition at 22-23. As CELLNET has demonstrated, the potential for interference from wideband forward links is substantial whether the licensee is grandfathered or newly licensed. Given Pinpoint's suggestions, this MUST be clarified on reconsideration.

III. The Commission Should Not Expand the Current Limitations on Interconnection and Permissible Uses.

In the CELLNET Petition, CELLNET urged further clarification of the scope of permissible uses of LMS systems; as CELLNET noted, the provisions adopted in the Report and Order were vulnerable to a variety of interpretations. Such ambiguity, CELLNET feared, would result in the LMS becoming a general messaging service, more akin to other personal wireless services being developed in spectrum directly allocated for such purposes, rather than a valuable search and monitoring service.

The LMS petitioners confirm CELLNET's suspicions by requesting reconsideration of even the existing limits, as well as the philosophy behind the expanded eligibility and permitted LMS uses of this band. Indeed, MobileVision virtually acknowledges that LMS service providers cannot survive in the marketplace if they are forced to limit themselves to their primary vision -- location and monitoring services for vehicles and objects.¹¹

As CELLNET has demonstrated in its Petition, eligibility for the LMS service and the use of the 902-928 MHz band was expanded because the Commission saw an unmet

¹¹ MobileVision Petition at 2-6. CELLNET agrees with MobileVision when it argues that the currently imposed limitations are virtually unenforceable, but CELLNET suggests instead that tighter limits are thus appropriate.

need for licensed location services; the Commission never suggested that there was a need for existing or future LMS licensees to engage in general messaging services (or even that the financial viability of AVM licensees warranted such expansion). Indeed, while the adopted rules likely will result in increased congestion (and thus less utility for Part 15 devices) in this band, opening the band to whatever wireless services licensees may desire to offer will certainly result in intolerable interference to all users of this band.

Moreover, the record does not support a need for such expanded, unrestricted messaging services by LMS licensees. Such services are, or will be, readily available to consumers from a variety of other CMRS licensees in the cellular, SMR or PCS services. If those general messaging service offerings are critical to financial success, these parties should instead be applying for licenses in other radio services. The suggestions of the LMS Petitioners must therefore be rejected. As CELLNET has suggested, the rules should be clarified to ensure that the 902-928 MHz frequencies are not used primarily, or even to a substantial degree, for the provision of advanced messaging, paging or

other wide area personal communications services that are clearly beyond the scope of LMS.¹²

Similarly, LMS Petitioners who believe that expanded interconnection is needed have failed to establish the need for, or to offset the serious consequences of, such expansion. Several suggest that LMS providers will be at a disadvantage because Part 15 devices are not limited in the nature or extent of interconnection services they may offer. This argument is baseless. Part 15 devices are not licensed; they are seriously restricted in the power at which they may operate; and they do not, in any single instance, congest the spectrum. If any LMS provider wants to engage in expanded interconnection, it too can do so in this band operating on an unlicensed basis under Part 15. If instead such providers want the benefits of a license, they must bear the burdens of interconnection restrictions intended to enhance use of the band by multiple service and system providers.

¹² CELLNET Petition at 9-13. Instead, the Commission should limit interconnection features to ensure that real time interconnection is limited to emergency calls, and store and forward interconnection services should be more precisely defined to prevent use of the 902-928 MHz band to provide paging, dispatch and messaging services.

IV. The Technical Restrictions on Non-Multilateration Systems Should Not Be Changed.

One LMS Petitioner, Amtech, argues that the height, power, frequency tolerance and out-of-band emission requirements for non-Multilateration LMS licensees are too restrictive. Amtech suggests that greater flexibility should be allowed based on measured field strengths which are equivalent (according to AMTECH) to those produced by a facility operating at 30 watts ERP at a fifteen meter height above ground.¹³ CELLNET disagrees.

The adopted limits were designed to encourage sharing; AMTECH acknowledges that the Commission was sensitive to spectrum congestion in establishing the technical parameters.¹⁴ The record reflects that the vast majority of non-Multilateration system designs are based on low-power and highly directional applications. If, in the future, individual applications require different technical characteristics and the licensee can demonstrate that the grant of such characteristics will not create interference to other users of the band, including those Part 15 devices that meet the threshold parameters of Section 90.309, then a waiver may be appropriate. There is no need, however, to

¹³ Amtech Petition at 9-15.

¹⁴ Amtech Petition at 12.

provide such unbridled design flexibility in the rules at this time.

V. The Grandfathering Provisions of the Report and Order Should Not Be Broadened; Rather, Clarification is Needed to Avoid Undue and Uncontrolled Expansion by LMS Licensees Speculating in Spectrum.

As a general matter, grandfathering provisions included in a new regulatory structure should be employed to protect existing licensees who have installed and operated systems in reliance on existing rules and who would be severely prejudiced by imposition of the new regulations.¹⁵ That is not, however, the case here, where the Commission has proposed to grandfather not only those AVM/LMS systems that were operational as of the date of the new regulations, but even those not yet constructed. Indeed, the Report and Order encourages new construction under the old regimen by¹ extending such protection to any unconstructed system, provided that an accelerated construction date is met.¹⁶ To assure that speculative investments in AVM systems are not rewarded, CELLNET opposed such approach, and urged, instead, that any grandfathering should be limited to systems constructed by the grandfathering date of February 3, 1995.

¹⁵ See Report and Order at ¶61.

¹⁶ See CELLNET Petition at 13-14.

Several LMS Petitioners, however, urge a very different approach. They suggest that grandfathering provisions (allowing operation unfettered by the any technical and operational restrictions imposed by the new LMS service rules) should instead be extended to allow virtually limitless expansion of previously **licensed** systems, whether or not any construction had taken place prior to the grandfathering deadline. Pinpoint, for example, would permit grandfathered licensees to build out their systems within and throughout the BTAs in which they are licensed, and to move antenna sites, modify operation parameters and modify licenses to add additional mobiles even after the construction deadline.¹⁷ MobileVision would amend the rules to permit relocation and addition of transmitter sites provided that the grandfathered area is not "materially expanded."¹⁸ And AMTECH proposes to permit grandfathered non-multilateration LMS systems to continue to operate indefinitely in accordance with prior AVM technical rules, as well as in current frequencies.¹⁹

Contrary to the purposes behind the grandfathering provisions, the arguments of these petitioners would serve

¹⁷ Pinpoint Petition at 13-17.

¹⁸ MobileVision Petition at 9.

¹⁹ AMTECH Petition at 3-8.

only to reward warehousing of spectrum. In addition, proposals to change the grandfathering provisions to allow incremental expansion of coverage or service levels would effectively grant to existing licensees the ability to operate throughout large portions of the MTAs that would otherwise be auctioned on an exclusive-use basis. Most importantly, such unfettered use and expansion by existing licensees would unduly increase spectrum congestion and severely undermine the spectrum sharing that the Commission has attempted to obtain in this proceeding.

For these reasons, CELLNET opposes all of these arguments. Grandfathering rights available under Section 90.363 must be limited only to those AVM licensees whose systems were constructed and operating on or before February 3, 1995.

CONCLUSION

None of the LMS Petitioners has persuasively demonstrated that the rules changes proposed are appropriate. To the contrary, each change would unduly burden the 902-928 MHz band with more congestion from systems that are not tightly designed to avoid spurious emissions outside of their authorized bandwidths; that are designed to serve general messaging needs rather than the location and monitoring services for which these rules were

intended; or that are designed under older rules simply to take advantage of spectrum warehousing accomplished by the allowance of a very liberal grandfathering exception. No such result serves the public interest, and the LMS Petitioners' requests for reconsideration should therefore be rejected.

Respectfully Submitted,

CELLNET DATA SYSTEMS, INC.

Lawrence J. Movshin

By: Lawrence J. Movshin

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May 24, 1995

CERTIFICATE OF SERVICE

I, Shelia L. Robertson, a secretary at the firm of Wilkinson, Barker, Knauer & Quinn, do certify that a copy of the foregoing Opposition to Petitions for Reconsideration of CELLNET DATA SYSTEMS, INC. was mailed this 24th day of May, 1995, via U.S. mail, postage prepaid, first class, to the offices of:

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